

TECHNIQUE FOR CREATING A FAULT-TOLERANT DAISY-CHAINED SERIAL BUS

ABSTRACT

A high-speed data bus operating under the IEEE-1394 protocol is fault tolerant. The data bus includes a plurality of serial busses communicatively interconnecting a plurality of nodes. A controller selectively enables communication over the serial busses based on an operational condition of the data bus. The serial busses interconnect the nodes in a ring topology such that the data bus continues to function when the operational condition includes device faults. In a highly preferred embodiment, the serial busses are daisy-chained busses. Interconnecting the nodes in a ring topology enables reliable detection of device faults as well as a mechanism for switching between the daisy-chained busses and diagnosing the device fault.